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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,849	04/19/2000	TRUONG Q. NGUYEN	012560.0156-	4122

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PILLSBURY WINTHROP, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER

LE, VU

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/529,849	NGUYEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vu Le	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-60 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-36 and 55-60 is/are allowed.
- 6) ☒ Claim(s) 1-3,9,37-39 and 44-52 is/are rejected.
- 7) ☒ Claim(s) 4-8,10-18,40-43,53 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3,6</u> . | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

*(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent; or*

*(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English.*

2. Claims 1, 9, 49-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Lennon, US 5,937,097.

[Claim 1]

Lennon discloses the same method of compressing data (see figs. 3 & 4) including first and second data sets (reads on input block 20 and reference block in 6 respectively) comprising: transforming the first and second data sets into corresponding first and second transform coefficient sets (reads on transform 30 to yield transformed incoming block 148 and transformed reference block 149 respectively, see fig. 4 for further details) generating data representing differences between the first and second transform coefficient sets (reads on fig. 3:150 or fig. 4:320); and encoding the generated data for transmission (reads on Lennon at col. 8, lines 29-48).

Claim 9 which recites "wherein transforming of the first and second data sets produces the first transform coefficient set as a first collection of subbands and the second transform coefficient set as a second collection of subbands" is anticipated by Lennon. The transformed incoming block 148 i.e. first transform coefficient set and the transformed reference block 149 i.e. second transformed coefficient set respectively inherently include first and second collection of subbands respectively because the wavelet transformed coefficient set is essentially a collection of subbands.

Claims 49-50 are clearly anticipated by Lennon. See fig. 4, also col. 8, line 55+.

Claims 51-52 are anticipated by Lennon. See figs. 3 & 4. Motion detection is carried out in the transformed domain in Lennon.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennon as applied to claim 1 above and further in view of Meany et al., US 5,850,482.

Claim 2 which recites "wherein transforming the first and second data sets is performed utilizing a tensor product wavelet transform" is not specifically disclosed in Lennon, although wavelet transform is taught. However, a tensor product wavelet transform is well known and used in the art as evidenced in Meany (col. 2, line 58+).

Therefore, taking the combined teaching of Lennon and Meany as a whole, it would have been obvious to use a tensor product wavelet transform as claimed for the wavelet transform technique disclosed in Lennon for extending the wavelet transformation to two dimensional (2D) imagery as noted in Meany (col. 2, line 58+).

Claim 3 which recites "wherein remainders from one subband are transmitted to another subband" is unpatentable over Lennon in view of Meany because the claimed limitation is impliedly taught in the tensor product wavelet transform made known and used in Meany.

5. Claims 37-39, 44-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennon in view of Meany et al.

Claim 37 is unpatentable over Lennon in view of Meany. The grounds for rejection may be gleaned from claims 2 and 3 above.

Claims 38-39 are unpatentable over Lennon in view of Meany because the claimed limitations are impliedly taught in the tensor product wavelet transform made known and used in Meany.

Claims 44-46 are unpatentable over Lennon in view of Meany because the claimed limitations are impliedly taught in the tensor product wavelet transform made known and used in Meany.

Claim 47 is unpatentable over Lennon in view of Meany because wavelet transform may be interchanged with other comparable transformation technique such as the well known discrete cosine transform (DCT) as claimed. A reasonable artisan in the

art would have found it obvious to replace the wavelet transform with the DCT transform as a matter of preference.

Claim 48 is unpatentable over Lennon in view of Meany for the same rationale as established for claims 2 and 3 above.

***Allowable Subject Matter***

6. Claims 4-8, 10-18, 40-43, 53-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to anticipate or rendered obvious the claimed limitations of:

“wherein generating data representing differences between the first and second transform coefficient sets includes: estimating the differences between the first and second transform coefficient sets to provide motion vectors; applying the motion vectors to the first transform coefficient set to produce a prediction of the second transform coefficient set; and subtracting the prediction from the second transform coefficient set resulting in a set of prediction errors” as recited in claim 4;

“further including macro-block packing the second collection of subbands to form a subband macro-block grouping” as recited in claim 10;

the claimed limitations as recited in claims 18, 40, 42, 43, 53, 54 respectively;

7. Claims 19-36, 55-60 are allowed.

The prior art of record fails to anticipate or rendered obvious the claimed limitations of:

“...predicting the second transform coefficient set by applying the motion vectors to the first transform coefficient set; subtracting the predicted second transform coefficient set from the second transform coefficient set to obtain prediction errors...” as commonly recited in independent claims 19, 29, 31;

“...disassociating a set of related subband blocks from a collection of subbands; packing the set of related subband blocks together as a subband macro-block; and - repeating the disassociating and packing steps above for each set of related subband blocks in the collection of subbands to form a subband macro-block grouping...” as recited in independent claim 34;

the claim limitations as recited in independent claim 55.

### **Contacts**

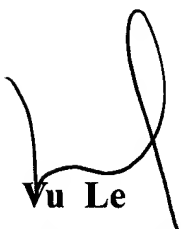
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Vu Le whose telephone number is (703) 308-6613. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700 or Customer Service whose number is (703) 308-6789.

**Very Important!**

The fax number for submitting all Official communications is (703) 872-9314.

The fax number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (703) 746-6867.

A handwritten signature in black ink, appearing to read 'Vu Le', with a large loop at the end of the line.

**Vu Le**  
Primary Examiner  
AU 2613  
(703) 308-6613  
Vu.Le@uspto.gov